DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-015169
Date Inspected: 25-Jun-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 1100
OSM Departure Time: 1930
Location: Job Site

CWI Name: See Below

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
				Approved WPS:	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Orthotropic Box Girders

Summary of Items Observed:

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the project site and observed the following work performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below:

A). Field Splice W2/W3
B). Field Splice W4/W5
C). Witnessed Procedure Qualification Record (PQR) Test

A). Field Splice W2/W3

The QAI performed a random ultrasonic verification test of the Complete Joint Penetration (CJP) groove weld identified as WN: 2W-3W-C. A total area of approximately 10% was ultrasonically tested to verify the weld and testing by QC meet the requirements of the contract documents. The examination was performed in the first and second leg and a ultrasonic test report, TL6027, was generated on this date.

B). Field Splice W4/W5

The QAI performed an Ultrasonic Test (UT) on the repairs of the transverse weld identified as WN: 4W-5W-A. The repaired areas were tested 100% to verify that the repaired welds and testing by QC meet the requirements of the contract documents. The examination was performed in the first and second leg and a ultrasonic test report, TL-6027 was generated on this date.

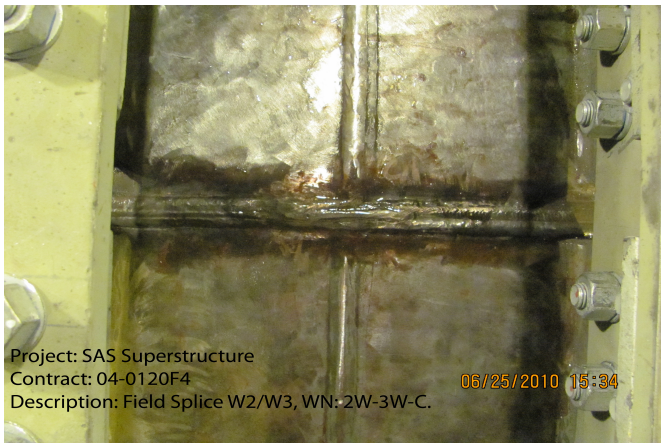
C). Procedure Qualification Record (PQR) Test

At approximately 1300, the QAI observed and witnessed the continued welding of the PQR test plate, weld layers 13 through 16, performed by welding personnel Rick Clayborn ID-2773 utilizing the Shielded Metal Arc Welding (SMAW) process as per the Procedure Qualification Test (PQR) No. ABF-PQR-036-3 Rev. 0. The PQR was also used by the QC inspector and the QAI as a reference to monitor the welding and verify the Direct Current Electrode Positive (DCEP) welding parameters. The Lincoln Excalibur electrode, E9018-M-H4R, appeared to comply with the AWS Specification A5.5-06 and the AWS Classification E9018-M-H4R and the 35mm thick plate appeared to comply with the material specification identified as ASTM-A709 Grade 485W. The groove joint appeared to comply with the AWS joint designation identified as B-U2a-GF. The QC inspector utilized a Fluke 337 clamp meter to verify the average amperage and a Fluke 189 True RMS Multimeter to verify the average voltage which were noted and recorded as follows; 133.2 amps, 21.5 volts with an average travel speed measured at 83.9mm/minute. The heat input was calculated and recorded as 2.04 kj/mm and the surface temperatures appeared to comply with the PQR document. The PQR test plate was positioned in the vertical plane with the groove approximately vertical (3G) and the weld progression up. The test was completed during this shift.

QA Observation and Verification Summary

The QA inspector observed the QC activities and the welding of the field splices utilizing the WPS as noted above, which appeared to be posted at the weld station. The welding parameters and surface temperatures were verified by the QC inspector and utilizing a Fluke 337 clamp meter for the electrical welding parameters and a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. The ESAB consumables utilized for the SMAW processes appeared to comply with the AWS Specification and AWS Classification. The QC inspection, testing and welding performed on this shift appeared to be in general compliance with the contract documents. At random intervals, the QAI verified the QC inspection, testing, welding parameters and the surface temperatures utilizing various inspection equipment and gages which included a Fluke 337 Clamp Meter and Tempilstik Temperature indicators.

The digital photographs below illustrate the work observed during this scheduled shift.



WELDING INSPECTION REPORT

(Continued Page 3 of 3)

Summary of Conversations:

There were no pertinent conversations were discussed in regards to the project.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Reyes,Danny	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer